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| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.       | CONFIRMATION NO.       |
|--|-------------|----------------------|---------------------------|------------------------|
| 10/715,791   | 11/18/2003  | Scott Alan Geye      | MV03-007                  | 4568                   |
| 7590<br>Michael B. Atlass<br>Unisys Corporation<br>Unisys Way, MS/E8-114<br>Blue Bell, PA 19424-0001 |             |                      | EXAMINER<br>ZHE, MENG YAO |                        |
|  |             |                      | ART UNIT<br>2195          | PAPER NUMBER           |
|  |             |                      | MAIL DATE<br>10/10/2007   | DELIVERY MODE<br>PAPER |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/715,791

Applicant(s)

GEYE ET AL.

Examiner

MengYao Zhe

Art Unit

2195

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 18 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-32 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

1. Claims 1-32 are presented for examination.

#### ***Claim Rejections - 35 USC § 101***

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claims 23-32 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The claims are directed to a signal directly or indirectly by claiming a medium and the Specification recites evidence where the computer readable medium is define as a "wave" (such as a carrier wave). In that event, the claims are directed to a form of energy which at present the office feels does not fall into a category of invention. The following link on the World Wide Web is for the United States Patent And Trademark Office (USPTO) policy on 35 U.S.C. §101.

<[http://www.uspto.gov/web/offices/pac/dapp/opla/preognotice/guidelines101\\_20051026.pdf](http://www.uspto.gov/web/offices/pac/dapp/opla/preognotice/guidelines101_20051026.pdf)>

#### ***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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5. Claims 1-32 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a. The following claim languages are unclear and indefinite:

i) Claim 1, it is uncertain as to what happens in the particular circumstance where only one processor is present and a processor needs to be deleted <i.e. line 5 mentions "at least one...processors", which means that there is the case that only one processor is assigned to the set of instructions. In the case that a processor need to be deleted, the instructions are left with zero processor. How is this possible?>.

lines 7-9, it is uncertain how determination is made as to whether a processor should added or deleted <i.e. when does it add and when does it delete? What does the system use to make this decision?>.

Furthermore, it is unclear what is meant by "processor usage in the system" <i.e. is it how often a processor is used in a span of time? Or is it the portion of CPU that is being used in a span of time?>.

Claims 13 and 23 have the same deficiencies as claim 1 above.

ii) Claim 5, it is not clearly understood as to what is meant by "CPU utilization is normalized" <i.e. what is it normalized to?>.

Claims 17 and 27 have the same deficiencies as claim 5 above.

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- iii) Claim 11, lines 2, it is unclear as to what is meant by "above about 85%" <i.e. what does above about mean?>.

Claim 12 has the same deficiency as claim 11 above.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1-4, 6-7, 9-10, 13-16, 18-19, 21-26, 28-29, 31-32 are rejected under 35 U.S.C. 102(e) as being anticipated by Bhagat et al., Patent No. 6,782,410 (hereafter Bhagat).

8. As per claims 1, 13, and 23, Bhagat teaches a method of dynamically managing a computer system having a plurality of processors (Fig 2, unit 24), comprising:

identifying a first set of computer-readable instructions whose processing is to be managed (Fig 2, unit 21; Column 7, lines 16-18);

assigning the first set of computer-readable instructions to at least one of said plurality of processors where said first set of computer-readable instructions can execute (Column 7, lines 20-26);

automatically adjusting the number of processors where said first set of instructions can execute by adding or deleting a processor that said first set of instructions can execute on based on processor usage in the system (Column 7, lines 30-46).

9. As per claims 2, 14, and 24, Bhagat teaches wherein the first set of computer-readable instructions comprise a computing thread (Column 7, lines 16-20).

10. As per claims 3, 15, and 25, Bhagat teaches wherein the first set of computer-readable instructions comprise an application program (Column 3, lines 1-10).

11. As per claims 4, 16, and 26, Bhagat teaches wherein the processor usage is based on the CPU utilization for the computer-readable instructions (Column 7, lines 38-46).

12. As per claims 6, 18, and 28, Bhagat teaches identifying a second set of computer-readable instructions wherein said first set of computer-readable instructions and said second set of computer-readable instructions comprise an application group (Fig 2, unit 22).

13. As per claims 7, 19, and 29, Bhagat teaches wherein the application group is assigned to a common set of processors whose number is automatically adjusted (Column 7, lines 20-26).

14. As per claims 9, 21, and 31, Bhagat teaches wherein the processor usage comprises an average processor usage taken over a predefined interval (Column 8, lines 35-41; Column 12, lines 27-33).

15. As per claims 10, 22, and 32, Bhagat teaches where the act of automatically adjusting the number of processors compares the processor usage to a threshold value (Column 8, lines 35-41; Column 12, lines 35-60).

***Claim Rejections - 35 USC § 103***

16. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

17. Claims 5, 11-12, 17 and 27, are rejected under 35 U.S.C. 103(a) as being unpatentable over Bhagat et al., Patent No. 6,782,410 (hereafter Bhagat).

18. As per claims 5, 17, and 27, Bhagat does not specifically teach wherein the CPU utilization is normalized for the CPUs in the number of processors that the first set of instructions can run on.

However, it would have been obvious to one having ordinary skill in the art of resource computation at the time of the applicant's invention to normalize the CPU utilization because it allows one to deal with resource computation and resource quantity in an easier and more efficient manner.

19. As per claim 11, Bhagat does not specifically teach wherein the threshold value for adding a processor is above about 85% of CPU utilization on the processors that the first set of instructions is executing on.

However, it would have been obvious to one having ordinary skill in the art at the time of the applicant's invention to pick any percentage number, including this particular



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85%, as a threshold value, as there is nothing significant about this value itself to give the entire invention a special result.

20. As per claim 12, Bhagat does not specifically teach wherein the threshold value is for deleting a processor is below about 65% of CPU utilization on the processors that the first set of instructions is executing on.

However, it would have been obvious to one having ordinary skill in the art at the time of the applicant's invention to pick any percentage number, including this particular 5%, as a threshold value, as there is nothing significant about this value itself to give the entire invention a special result.

21. Claims 8, 20 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bhagat et al., Patent No. 6,782,410 (hereafter Bhagat) in view of Grice et al., Patent No. 5,600,822 (hereafter Grice).

22. As per claims 8, 20, and 30, Bhagat does not specifically teach wherein said first set of computer readable instructions are elevated in priority class before estimating processor usage.

However, Grice teaches elevating priority for a group of instructions before resources are allocated to them for the purpose of favoring the allocation of resources for one group of instructions over another group of instructions (Abstract).

It would have been obvious at the time of the applicant's invention to combine the teachings of Bhagat with elevating priority before allocating resources, as taught by Grice, so that before estimating processor usage for resource allocation, said first set of computer readable instructions are elevated in priority class, because it favors the allocation of resources for one group of instructions over another.


### ***Conclusion***

23. Any inquiry concerning this communication or earlier communications from the examiner should be directed to MengYao Zhe whose telephone number is 571-272-6946. The examiner can normally be reached on Monday Through Friday, 7:30 - 5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on 571-272-3756. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
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